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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/900,369

07/06/2001

Alan Weir Bucher

PU010126

6022

7590

09/21/2004

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EXAMINER

LEURIG, SHARLENE L

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/900,369

Applicant(s)

BUCHER, ALAN WEIR

Examiner

Sharlene Leurig

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim recites

"detensioning members having a second coefficient of thermal expansion fixed along the peripheral surfaces of said sides wherein said second coefficient of thermal expansion of said detensioning members is relatively greater than said first coefficient of thermal expansion fixed along the outer surface of said short sides and inner surface of said long sides, and said second coefficient of thermal expansion is relatively lower than said first coefficient of thermal expansion fixed along the inner surface of said short sides and said outer surface of said long sides".

The phrasing of the claim makes it unclear that the detensioning members, and not the first coefficient of thermal expansion, is fixed along the surfaces of the frame.

Furthermore, it is unclear whether the claimed invention includes detensioning members fixed along the outer surface of the short sides and the inner surface of the long sides, **as well as** the inner surface of the short sides and the outer surface of the long sides, or whether it includes detensioning members fixed along the outer surface of the short sides and the inner surface of the long sides, **or** along the inner surface of the short sides and the outer surface of the long sides. It should be noted by the applicant that should the applicant amend the claim to recite detensioning members fixed along the outer surface of the short sides and the inner surface of the long sides, **as well as** the

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inner surface of the short sides and the outer surface of the long sides, the amended claim may introduce a 35 U.S.C. 112 first paragraph problem of lack of adequate written description.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kume et al. (5,111,107) (of record).

Regarding claim 1, Kume discloses a tension mask frame assembly for a CRT comprising a substantially rectangular mask support frame having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other, the frame having a pair of opposing long sides (Figure 1, elements 1 and 2) extending in parallel to the major axis and a pair of opposing short sides (3 and 4) extending in parallel to the minor axis. Each side has an outer peripheral surface and an inner peripheral surface. A tension mask (6) is supported between a pair of support blade members, the upper leg of the L-shaped long members (Figure 2, element 5a), which are attached to the frame at a point along a respective one of the pair of opposing sides. A detensioning member (9) is fixed along one of the outer or inner peripheral surfaces of at least one of the sides, and has a second coefficient of

thermal expansion whereby the attachment points are drawn toward each other during thermal cycling of the assembly, as illustrated in Figure 2.

Regarding claim 3, Kume discloses that the second coefficient of thermal expansion is greater than the first coefficient of thermal expansion of the frame, including the inner surface of the long sides and the outer surface of the short sides (column 2, lines 65-68).

Regarding claim 6, the opposing long and short sides lie in a frame plane, specifically the plane that encompasses the area where the long and short sides meet.

Regarding claim 7, the peripheral surface along which the detensioning member (9) is fixed lies generally orthogonal to the frame plane.

Regarding claim 8, a pair of support blade members (Figure 2, element 5a) has at least one generally central attachment point for attaching each of the support blade members to a pair of opposing sides of the frame.

5. Claims 1, 2 and 6-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Ragland, Jr. (5,932,957) (of record).

Regarding claim 1, Ragland discloses a tension mask frame assembly for a CRT comprising a substantially rectangular mask support frame having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other, the frame having a pair of opposing long sides (Figure 3, element 50) extending in parallel to the major axis and a pair of opposing short sides (40) extending in parallel to the minor axis. Each side has an outer peripheral surface

and an inner peripheral surface. A tension mask (24) is supported between a pair of support blade members (52) attached to the frame at a point along a respective one of the pair of opposing sides. A detensioning member (60) is fixed along one of the outer or inner peripheral surfaces of at least one of the sides, and has a second coefficient of thermal expansion whereby the attachment points are drawn toward each other during thermal cycling of the assembly, as illustrated in Figure 3.

Regarding claim 2, the detensioning member has a lower thermal coefficient of expansion than the frame, including the outer surface of the long side and the inner surface of the short sides.

Regarding claim 6, the opposing long and short sides lie in a frame plane, specifically the plane that encompasses the area where the long and short sides meet.

Regarding claim 7, the peripheral surface along which the detensioning member (60) is fixed lies generally orthogonal to the frame plane.

Regarding claim 8, a pair of support blade members (Figure 3, element 52) having at least one generally central attachment point for attaching each of the support blade members to a pair of opposing sides of the frame.

Regarding claim 9, Ragland discloses a cathode ray tube comprising a glass envelope having a rectangular facepanel (Figure 1, element 18) and a tubular neck (14) extending from the panel through a funnel (15), a phosphor screen (22) carried by an inner surface of the faceplate panel, an electron gun (26) centrally mounted within the neck, and a tension mask frame assembly (35) mounted between the electron gun and the panel. The mask frame assembly has the limitations described above with respect

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to claim 1, including a tension mask supported on a frame between a pair of mounting locations and a detensioning member fixed along at least one side of the frame, and having a coefficient of thermal expansion whereby the mounting locations are drawn toward each other during thermal cycling of the mask frame assembly, as shown in Figure 3.

Regarding claim 10, a pair of support blade members (Figure 3, element 52) are mounted to the tension mask frame assembly at the mounting locations.

Regarding claim 11, the tension mask (24) is attached to the support blade members (52).

Regarding claim 12, the long and short sides lie in a common plane, specifically the plane that encompasses the area where the long and short sides meet.

Regarding claim 13, the detensioning member (60) is fixed along a peripheral surface of one of the sides that is generally orthogonal to the frame plane.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 4 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Van Der Wilk (6,686,684).

Regarding claim 4, Van Der Wilk discloses a cathode ray tube having a tension mask and frame assembly comprising a mask mounted in tension on a substantially rectangular frame, the frame having a first coefficient of thermal expansion and including a pair of opposing long sides (Figures 4 and 5, element 14) and short sides (9C and 9D) disposed at generally a right angle with respect to the long sides with each of the sides connected to form a continuous generally planar frame having an inner and outer peripheral surface, since "planar" means "involving two dimensions", "being made of flat planes", or "lying in a plane". The frame disclosed by Van Der Wilk can be considered planar, as it is composed of constituents that lie in a plane together in the areas where the long and short sides join, and furthermore is composed of constituents that are made of flat planes. Detensioning members (11, 16) having a second coefficient of thermal expansion that is greater than the first coefficient of thermal expansion are fixed along the outer surface of said short sides and inner surface of said long sides (column 5, lines 19-44).

Regarding claim 5, the frame includes a pair of support blade members (24), each having at least one generally central attachment point for attaching each of the blade members to a pair of opposing sides of the frame.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kume et al. (5,111,107) (of record)) in view of Ragland, Jr. (5,932,957) (of record).

Kume discloses a tension mask frame assembly for a CRT comprising a substantially rectangular mask support frame having a first coefficient of thermal expansion and including a central major axis and a central minor axis perpendicular to each other, the frame having a pair of opposing long sides (Figure 1, elements 1 and 2) extending in parallel to the major axis and a pair of opposing short sides (3 and 4) extending in parallel to the minor axis to form a planar rectangular mask support frame. The sides are connected to form a continuous generally planar frame having an inner and outer peripheral surface, since "planar" means "involving two dimensions", "being made of flat planes", or "lying in a plane". The frame disclosed by Kume can be considered planar, as it is composed of constituents that lie in a plane together in the areas where the long and short sides join, and furthermore is composed of constituents that are made of flat planes. A tension mask (6) is supported on the frame between a pair of mounting locations on the upper leg of the L-shaped long members (Figure 2, element 5a), each being located on one of the pair of opposing sides. A detensioning member (9) is fixed along a peripheral surface of at least one of the sides, and has a coefficient of thermal expansion different from the coefficient of thermal expansion of the frame whereby the mounting locations are drawn toward each other during thermal cycling of the assembly, as illustrated in Figure 2.

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Kume fails to disclose the other components of the CRT in which the frame assembly is disposed.

Ragland teaches a cathode ray tube having a tension mask frame assembly comprising a mask mounted in tension on a substantially rectangular frame, the cathode ray tube further comprising a glass envelope having a rectangular facepanel (Figure 1, element 18) and a tubular neck (14) extending from the panel through a funnel (15), a phosphor screen (22) carried by an inner surface of the faceplate panel, and an electron gun (26) centrally mounted within the neck.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cathode ray tube of Kume to have the additional components taught by Ragland in order to provide a surface on which the generated image of the CRT is projected and an electron gun assembly to form the image.

Regarding claim 10, Kume discloses a pair of support blade members, the upper leg of the L-shaped long members (Figure 2, element 5a), mounted to the tension mask frame at the mounting locations.

Regarding claim 11, Kume discloses the tension mask fixed to the support blade members.

Regarding claim 12, Kume discloses the opposing long and short sides lying in a common plane, specifically the plane that encompasses the area where the long and short sides meet.

Regarding claim 13, Kume discloses a detensioning member (9) fixed along a peripheral surface of one of the sides which is generally orthogonal to the common plane.

Response to Arguments

10. Applicant's arguments filed on May 4, 2004 have been fully considered but they are not persuasive.

The applicant has argued with respect to claims 1-3 and claim 9 and all relevant dependents that neither Ragland nor Kume discloses a detensioning member fixed along one of the outer or inner peripheral surfaces of the frame.

The examiner disagrees and directs the applicant to Figure 2, element 9 of Kume and Figure 3, element 60 of Ragland, both of which illustrate detensioning members formed along one of the outer or inner peripheral surfaces of the frame, where "along" is interpreted according to its customary and ordinary meaning of "in a line parallel with a length or direction". Since the claim does not specifically identify the inner or outer surfaces of the frame, any peripheral surface may be inner or outer.

Furthermore the applicant has argued that neither Ragland nor Kume discloses support blade members joined to the mask frame for supporting the tension mask.

The examiner disagrees and directs the applicant to Figure 2, element 5a of Kume and Figure 3, element 52 of Ragland, both of which illustrate support blade members attached to the frame with at least one attachment point.

Regarding claim 6, the applicant has argued that neither Ragland nor Kume disclose the long and short sides of the frame lying in a frame plane.

The examiner disagrees and directs the applicant to Figure 2 of Kume and Figure 3 of Ragland, both of which illustrate long and short sides of the frame lying in at least one plane where the long and short sides meet. The examiner notes that the claim does not recite long and short sides lying entirely in shared planes, and therefore as long as there is some planar overlap between the long and short sides, the frames can be considered to lie in a frame plane. having a first coefficient of thermal expansion that is different from that of the detensioning member.

The rejections of claims 1-3 and 6-13 are maintained.

11. Applicant's arguments, see Remarks, filed May 4, 2004, with respect to the rejection(s) of claim(s) 4 and 5 under 35 U.S.C. 103(a) as being unpatentable over Ragland, Jr. (5,932,957) in view of Kume et al. (5,111,107) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Van Der Wilk (6,686,684).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharlene Leurig whose telephone number is (571) 272-2455. The examiner can normally be reached on Monday through Friday, 8:30am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sll



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